

RAW SEQUENCE LISTING

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Application Serial Number: 09/478,567
Source: FWO
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RAW SEQUENCE LISTING

DATE: 06/15/2005

PATENT APPLICATION: US/09/478,567

TIME: 15:09:28

Input Set : N:\Crf3\RULE60\09478567.raw.txt

Output Set: N:\CRF4\06152005\I478567.raw

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1 <110> APPLICANT: Rao, Gururaj A.
2   Major Sleister, Heidi
3 <120> TITLE OF INVENTION: Compositions and Methods for Altering Amino Acid
4   Content of Proteins
5 <130> FILE REFERENCE: 5718-16
6 <140> CURRENT APPLICATION NUMBER: US/09/478,567
7 <141> CURRENT FILING DATE: 2000-01-06
8 <150> PRIOR APPLICATION NUMBER: US/08/988,015
9 <151> PRIOR FILING DATE: 1997-12-10
10 <160> NUMBER OF SEQ ID NOS: 11
11 <170> SOFTWARE: PatentIn Ver. 2.0
13 <210> SEQ ID NO: 1
14 <211> LENGTH: 218
15 <212> TYPE: PRT
16 <213> ORGANISM: Glycine max
17 <400> SEQUENCE: 1
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20   His Asn Ile Arg Ala Phe Lys Thr Ile Pro Glu Glu Cys Val Ser Pro
21           20           25           30
22   Thr Lys Asp Tyr Ile Asn Gly Glu Gln Phe Arg Ser Asp Ser Lys Thr
23           35           40           45
24   Val Asn Gln Gln Ala Phe Phe Tyr Ala Ser Glu Arg Glu Val His His
25           50           55           60
26   Asn Asp Ile Phe Ile Phe Gly Ile Asp Asn Thr Val Leu Ser Asn Ile
27           65           70           75           80
28   Pro Tyr Tyr Glu Lys His Gly Tyr Gly Val Glu Glu Phe Asn Glu Thr
29           85           90           95
30   Leu Tyr Asp Glu Trp Val Asn Lys Gly Asp Ala Pro Ala Leu Pro Glu
31           100          105          110
32   Thr Leu Lys Asn Tyr Asn Lys Leu Leu Ser Leu Gly Phe Lys Ile Val
33           115          120          125
34   Phe Leu Ser Gly Arg Tyr Leu Asp Lys Met Ala Val Thr Glu Ala Asn
35           130          135          140
36   Leu Lys Lys Ala Gly Phe His Thr Trp Glu Gln Leu Ile Leu Lys Asp
37           145          150          155          160
38   Pro His Leu Ile Thr Pro Asn Ala Leu Ser Tyr Lys Ser Ala Met Arg
39           165          170          175
40   Glu Asn Leu Leu Arg Gln Gly Tyr Arg Ile Val Gly Ile Ile Gly Asp
41           180          185          190
42   Gln Trp Ser Asp Leu Leu Gly Asp His Arg Gly Glu Ser Arg Thr Phe
43           195          200          205
44   Lys Leu Pro Asn Pro Met Tyr Tyr Ile Glu

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45          210          215
47 <210> SEQ ID NO: 2
48 <211> LENGTH: 218
49 <212> TYPE: PRT
50 <213> ORGANISM: Glycine max
51 <400> SEQUENCE: 2
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54   His Asn Ile Phe Gly Phe Glu Thr Ile Pro Glu Glu Cys Val Glu Ala
55           20              25              30
56   Thr Lys Glu Tyr Ile His Gly Glu Gln Tyr Arg Ser Asp Ser Lys Thr
57       35              40              45
58   Val Asn Gln Gln Ala Tyr Phe Tyr Ala Arg Asp Leu Glu Val His Pro
59       50              55              60
60   Lys Asp Thr Phe Val Phe Ser Ile Asp Asn Thr Val Leu Ser Asn Ile
61       65              70              75              80
62   Pro Tyr Tyr Lys Lys His Gly Tyr Gly Val Glu Lys Phe Asn Ser Thr
63           85              90              95
64   Leu Tyr Asp Glu Trp Val Asn Lys Gly Asn Ala Pro Ser Leu Pro Glu
65       100             105             110
66   Thr Leu Lys Asn Tyr Asn Lys Leu Val Ser Leu Gly Phe Lys Ile Ile
67       115             120             125
68   Phe Leu Ser Gly Arg Thr Leu Asp Lys Gln Ala Val Thr Glu Ala Asn
69       130             135             140
70   Leu Lys Lys Ala Gly Tyr His Thr Trp Glu Lys Leu Ile Leu Lys Asp
71       145             150             155             160
72   Pro Gln Pro Ser Thr Pro Asn Ala Val Ser Tyr Lys Thr Ala Ala Arg
73           165             170             175
74   Glu Lys Leu Ile Arg Gln Gly Tyr Asn Ile Val Gly Ile Ile Gly Asp
75       180             185             190
76   Gln Trp Ser Asp Leu Leu Gly Gly His Arg Gly Glu Ser Arg Thr Phe
77       195             200             205
78   Lys Leu Pro Asn Pro Leu Tyr Tyr Ile Gln
79       210             215
81 <210> SEQ ID NO: 3
82 <211> LENGTH: 214
83 <212> TYPE: PRT
84 <213> ORGANISM: Lycopersicon esculentum
85 <400> SEQUENCE: 3
86   Leu Lys Cys Thr Thr Trp Arg Phe Val Val Glu Thr Asn Asn Leu Ser
87       1              5              10              15
88   Pro Trp Lys Thr Ile Pro Glu Glu Cys Ala Asp Tyr Val Lys Glu Tyr
89           20              25              30
90   Met Val Gly Pro Gly Tyr Lys Met Glu Ile Asp Arg Val Ser Asp Glu
91       35              40              45
92   Ala Gly Glu Tyr Ala Lys Ser Val Asp Leu Gly Asp Asp Gly Arg Asp
93       50              55              60
94   Val Trp Ile Phe Asp Val Asp Glu Thr Leu Leu Ser Asn Leu Pro Tyr
95       65              70              75              80

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96      Tyr Ser Asp His Arg Tyr Gly Leu Glu Val Phe Asp Asp Val Glu Phe
97                      85                      90                      95
98      Asp Lys Trp Val Glu Asn Gly Thr Ala Pro Ala Leu Gly Ser Ser Leu
99                      100                      105                      110
100     Lys Leu Tyr Gln Glu Val Leu Lys Leu Gly Phe Lys Val Phe Leu Leu
101                      115                      120                      125
102     Thr Gly Arg Ser Glu Arg His Arg Ser Val Thr Val Glu Asn Leu Met
103                      130                      135                      140
104     Asn Ala Gly Phe His Asp Trp His Lys Leu Ile Leu Arg Gly Ser Asp
105                      145                      150                      155                      160
106     His Gly Lys Thr Ala Thr Thr Tyr Lys Ser Glu Arg Arg Asn Ala Met
107                      165                      170                      175
108     Val Glu Glu Gly Phe Arg Ile Val Gly Asn Ser Gly Asp Gln Trp Ser
109                      180                      185                      190
110     Asp Leu Leu Gly Ser Ser Met Ser Tyr Arg Ser Phe Lys Leu Pro Asn
111                      195                      200                      205
112     Pro Met Tyr Tyr Ile Leu
113                      210
115 <210> SEQ ID NO: 4
116 <211> LENGTH: 217
117 <212> TYPE: PRT
118 <213> ORGANISM: Phaseolus vulgaris
119 <400> SEQUENCE: 4
120     Ser Asp Thr Glu Val Arg Cys Ala Ser Trp Arg Leu Ala Val Glu Ala
121           1           5           10           15
122     Gln Asn Ile Phe Gly Phe Glu Thr Ile Pro Gln Gln Cys Val Asp Ala
123           20           25           30
124     Thr Ala Asn Tyr Ile Glu Gly Gly Gln Tyr Arg Ser Asp Ser Lys Thr
125           35           40           45
126     Val Asn Gln Gln Ile Tyr Phe Phe Ala Arg Asp Arg His Val His Glu
127           50           55           60
128     Asn Asp Val Ile Leu Phe Asn Ile Asp Gly Thr Ala Leu Ser Asn Ile
129           65           70           75           80
130     Pro Tyr Tyr Ser Gln His Gly Tyr Gly Ser Glu Lys Phe Asp Ser Glu
131           85           90           95
132     Arg Tyr Asp Glu Glu Phe Val Asn Lys Gly Glu Ala Pro Ala Leu Pro
133           100          105          110
134     Glu Thr Leu Lys Asn Tyr Asn Lys Leu Val Ser Leu Gly Tyr Lys Ile
135           115          120          125
136     Ile Phe Leu Ser Gly Arg Leu Lys Asp Lys Arg Ala Val Thr Glu Ala
137           130          135          140
138     Asn Leu Lys Lys Ala Gly Tyr Asn Thr Trp Glu Lys Leu Ile Leu Lys
139           145          150          155          160
140     Asp Pro Ser Asn Ser Ala Glu Asn Val Val Tyr Lys Thr Ala Glu Arg
141           165          170          175
142     Ala Lys Leu Val Gln Glu Gly Tyr Arg Ile Val Gly Asn Ile Gly Asp
143           180          185          190
144     Gln Trp Asn Asp Leu Lys Gly Glu Asn Arg Ala Ile Arg Ser Phe Lys
145           195          200          205

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146      Leu Pro Asn Pro Met Tyr Tyr Thr Lys
147          210                      215
149 <210> SEQ ID NO: 5
150 <211> LENGTH: 214
151 <212> TYPE: PRT
152 <213> ORGANISM: Arabidopsis thaliana
153 <400> SEQUENCE: 5
154      Pro Asn Cys Arg Ser Trp His Leu Gly Phe Glu Thr Ser Asn Met Ile
155          1                      5                      10                      15
156      Asn Phe Asp Thr Val Pro Ala Asn Cys Lys Ala Tyr Val Glu Asp Tyr
157          20                      25                      30
158      Leu Ile Thr Ser Lys Gln Tyr Gln Tyr Asp Ser Lys Thr Val Asn Lys
159          35                      40                      45
160      Glu Ala Tyr Phe Tyr Ala Lys Gly Leu Ala Leu Lys Asn Asp Thr Ile
161          50                      55                      60
162      Asn Val Trp Ile Phe Asp Leu Asp Asp Thr Leu Leu Ser Ser Ile Pro
163          65                      70                      75                      80
164      Tyr Tyr Ala Lys Tyr Gly Tyr Gly Thr Glu Asn Thr Ala Ala Gly Ala
165          85                      90                      95
166      Tyr Trp Ser Trp Leu Val Ser Gly Glu Thr Pro Gly Leu Pro Glu Thr
167          100                     105                     110
168      Leu His Leu Tyr Glu Asn Leu Leu Glu Leu Gly Ile Glu Pro Ile Ile
169          115                     120                     125
170      Ile Ser Asp Arg Trp Lys Lys Leu Ser Glu Ile Thr Ile Glu Asn Leu
171          130                     135                     140
172      Lys Ala Val Gly Val Thr Lys Trp Lys His Val Ile Leu Lys Pro Asn
173          145                     150                     155                     160
174      Gly Lys Leu Thr Gln Val Val Tyr Lys Ser Lys Val Arg Asn Gly Leu
175          165                     170                     175
176      Val Arg Gln Gly Tyr Asn Ile Val Gly Ile Ile Gly Asp Gln Trp Ala
177          180                     185                     190
178      Asp Leu Val Glu Asp Thr Pro Gly Arg Val Phe Lys Leu Pro Asn Pro
179          195                     200                     205
180      Leu Tyr Tyr Val Pro Ser
181          210
183 <210> SEQ ID NO: 6
184 <211> LENGTH: 220
185 <212> TYPE: PRT
186 <213> ORGANISM: Arabidopsis thaliana
187 <400> SEQUENCE: 6
188      Ser Ile Asn Tyr Pro Asn Cys Arg Ser Trp His Leu Gly Val Glu Thr
189          1                      5                      10                      15
190      Ser Asn Ile Ile Asn Phe Asp Thr Val Pro Ala Asn Cys Lys Ala Tyr
191          20                      25                      30
192      Val Glu Asp Tyr Leu Ile Thr Ser Lys Gln Tyr Gln Tyr Asp Ser Lys
193          35                      40                      45
194      Thr Val Asn Lys Glu Ala Tyr Phe Tyr Ala Lys Gly Leu Ala Leu Lys
195          50                      55                      60
196      Asn Asp Thr Val Asn Val Trp Ile Phe Asp Leu Asp Asp Thr Leu Leu

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197      65      70      75      80
198  Ser Ser Ile Pro Tyr Tyr Ala Lys Tyr Gly Tyr Gly Thr Glu Asn Thr
199      85      90      95
200  Ala Pro Gly Ala Tyr Trp Ser Trp Leu Glu Ser Gly Glu Ser Thr Pro
201      100      105      110
202  Gly Leu Pro Glu Thr Leu Tyr Leu Tyr Glu Asn Leu Leu Glu Leu Gly
203      115      120      125
204  Ile Glu Pro Ile Ile Ile Ser Asp Arg Trp Lys Lys Leu Ser Glu Val
205      130      135      140
206  Thr Val Glu Asn Leu Lys Ala Val Gly Val Thr Lys Trp Lys His Leu
207      145      150      155      160
208  Ile Leu Lys Pro Asn Gly Ser Lys Leu Thr Gln Val Val Tyr Lys Ser
209      165      170      175
210  Lys Val Arg Asn Ser Leu Val Lys Lys Gly Tyr Asn Ile Val Gly Asn
211      180      185      190
212  Ile Gly Asp Gln Trp Ala Asp Leu Val Glu Asp Thr Pro Gly Arg Val
213      195      200      205
214  Phe Lys Leu Pro Asn Pro Leu Tyr Tyr Val Pro Ser
215      210      215      220
217 <210> SEQ ID NO: 7
218 <211> LENGTH: 219
219 <212> TYPE: PRT
220 <213> ORGANISM: Arabidopsis thaliana
221 <400> SEQUENCE: 7
222  Ser Ile Asn Tyr Ala Asn Cys Arg Ser Trp His Leu Gly Val Glu Thr
223      1      5      10      15
224  Ser Asn Ile Ile Asp Phe Asp Thr Val Pro Ala Asn Cys Lys Asp Tyr
225      20      25      30
226  Val Glu Asp Tyr Leu Ile Thr Ser Lys Gln Tyr Gln Tyr Asp Ser Lys
227      35      40      45
228  Thr Val Cys Lys Glu Ala Tyr Phe Tyr Ala Lys Gly Leu Ala Leu Lys
229      50      55      60
230  Asn Asp Thr Val Asn Val Trp Ile Phe Asp Leu Asp Asp Thr Leu Leu
231      65      70      75      80
232  Ser Ser Ile Pro Tyr Tyr Ala Lys Tyr Gly Tyr Gly Thr Glu Lys Thr
233      85      90      95
234  Asp Pro Gly Ala Tyr Trp Leu Trp Leu Gly Thr Gly Ala Ser Thr Pro
235      100      105      110
236  Gly Leu Pro Glu Gly Leu Tyr Leu Tyr Gln Asn Ile Ile Glu Val Gly
237      115      120      125
238  Ile Glu Pro Ile Ile Leu Ser Val Arg Trp Lys Leu Trp Lys Asn Val
239      130      135      140
240  Thr Leu Asn Leu Glu Ala Ala Gly Val Thr Tyr Trp Lys His Leu Ile
241      145      150      155      160
242  Leu Lys Pro Asn Gly Ser Asn Leu Arg Gln Val Val Tyr Lys Ser Lys
243      165      170      175
244  Val Arg Asn Lys Leu Val Lys Lys Gly Tyr Asn Ile Val Gly Asn Ile
245      180      185      190
246  Gly Asp Gln Trp Ala Asp Leu Val Glu Asp Thr Pro Gly Arg Val Phe

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/478,567

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